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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,097	04/16/2004	Hiroatsu Toi	1297.43787X00	7729
20457 7590 02/01/2008 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873			EXAMINER YOUNG, NATASHA E	
			ART UNIT 1797	PAPER NUMBER
			MAIL DATE 02/01/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/825,097	TOI ET AL.	
	Examiner	Art Unit	
	Natasha Young	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>03/30/2006, 04/10/2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 7 of copending Application No. 10/714891 in view of Tajima et al (US 2003/0075556 A1).

Regarding claim 1, the copending application to Osawa et al claims in claims 1 and 7 a dispensing tip container having a plurality of holding portions for holding dispensing tips; a dispensing head having attachment portions to which at least one dispensing tip is attached, wherein when one or more dispensing tips are attached to the attachment portions, the dispensing head is capable of performing sucking and expelling operations for sucking liquid in or expelling the liquid out from the one or more dispensing tips; a moving mechanism that moves the dispensing head.

Osawa et al does not include a sensor in the claims that senses if one or more dispensing tips are attached to the attachment portions of the dispensing head when the head moves relative to the sensor, wherein the sensor has a sensing region that extends in a direction slanted with respect to a direction in which the dispensing head moves, and generates an output indicative of a status of the dispensing tips attached to the attachment portions of the dispensing head; and a control device that controls the sucking and expelling operations performed by the dispensing head and controls the moving mechanism to control movements of the dispensing head.

Tajima et al discloses an automatic liquid handling system wherein the sensor has a sensing region that extends in a direction slanted with respect to a direction in which the dispensing head moves (see paragraph 0025 and figure 5) and a control device that controls the sucking and expelling operations performed by the dispensing head and controls the moving mechanism to control movements of the dispensing head (see paragraphs 0014 and 0125).

It would have been obvious to one having ordinary skill in the art at the time the invention was to modify claims 1 and 7 of Osawa et al with the teachings of Tajima et al to provide a dispenser operation verification apparatus and a verification method that performs verification of the dispenser operation with high reliability regarding whole processes consisting of a series of operations, by performing the operations while verifying the operations of the dispenser (see Tajima et al paragraph 0012).

This is a provisional obviousness-type double patenting rejection.

Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 10 of copending Application No. 10/714889 in view of Tajima et al (US 2003/0075556 A1).

Regarding claim 1, the copending application to Toi et al claims in claims 1 and 10 a dispensing tip container having a plurality of holding portions for holding dispensing tips; a dispensing head having attachment portions to which at least one dispensing tip is attached, wherein when one or more dispensing tips are attached to the attachment portions, the dispensing head is capable of performing sucking and expelling operations

for sucking liquid in or expelling the liquid out from the one or more dispensing tips; a moving mechanism that moves the dispensing head.

Toi et al does not include a sensor in the claims that senses if one or more dispensing tips are attached to the attachment portions of the dispensing head when the head moves relative to the sensor, wherein the sensor has a sensing region that extends in a direction slanted with respect to a direction in which the dispensing head moves, and generates an output indicative of a status of the dispensing tips attached to the attachment portions of the dispensing head; and a control device that controls the sucking and expelling operations performed by the dispensing head and controls the moving mechanism to control movements of the dispensing head.

Tajima et al discloses an automatic liquid handling system wherein the sensor has a sensing region that extends in a direction slanted with respect to a direction in which the dispensing head moves (see paragraph 0025 and figure 5) and a control device that controls the sucking and expelling operations performed by the dispensing head and controls the moving mechanism to control movements of the dispensing head (see paragraphs 0014 and 0125).

.It would have been obvious to one having ordinary skill in the art at the time the invention was to modify claims 1 and 10 of Toi et al with the teachings of Tajima et al to provide a dispenser operation verification apparatus and a verification method that performs verification of the dispenser operation with high reliability regarding whole processes consisting of a series of operations, by performing the operations while verifying the operations of the dispenser (see Tajima et al paragraph 0012).

This is a provisional obviousness-type double patenting rejection.

Claims 1, 3, and 9 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 5 of copending Application No. 11/116299 in view of Tajima et al (US 2003/0075556 A1).

Regarding claim 1, the copending application to Toi et al claims in claims 1 and 5 a dispensing tip container having a plurality of holding portions for holding dispensing tips; a dispensing head having attachment portions to which at least one dispensing tip is attached, wherein when one or more dispensing tips are attached to the attachment portions, the dispensing head is capable of performing sucking and expelling operations for sucking liquid in or expelling the liquid out from the one or more dispensing tips; a moving mechanism that moves the dispensing head; a sensor, and generates an output indicative of a status of the dispensing tips attached to the attachment portions of the dispensing head; and a control device that controls the sucking and expelling operations performed by the dispensing head and controls the moving mechanism to control movements of the dispensing head.

Toi et al does not include a sensor in the claims that senses if one or more dispensing tips are attached to the attachment portions of the dispensing head when the head moves relative to the sensor, wherein the sensor has a sensing region that extends in a direction slanted with respect to a direction in which the dispensing head moves.

Tajima et al discloses an automatic liquid handling system wherein the sensor has a sensing region that extends in a direction slanted with respect to a direction in

which the dispensing head moves (see paragraph 0025 and figure 5) and a control device that controls the sucking and expelling operations performed by the dispensing head and controls the moving mechanism to control movements of the dispensing head (see paragraphs 0014 and 0125).

.It would have been obvious to one having ordinary skill in the art at the time the invention was to modify claims 1 and 5 of Toi et al with the teachings of Tajima et al to provide a dispenser operation verification apparatus and a verification method that performs verification of the dispenser operation with high reliability regarding whole processes consisting of a series of operations, by performing the operations while verifying the operations of the dispenser (see Tajima et al paragraph 0012).

Regarding claim 3, Toi et al does not include in the claim an automatic liquid handling system wherein the sensor comprises a light emitting unit and a light receiving unit disposed apart a predetermined distance from the light emitting unit, a light path being formed between the light emitting unit and the light receiving unit, wherein the moving mechanism moves the dispensing head to traverse the light path.

Tajima et al teaches an automatic liquid handling system wherein the sensor comprises a light emitting unit and a light receiving unit disposed apart a predetermined distance from the light emitting unit, a light path being formed between the light emitting unit and the light receiving unit, wherein the moving mechanism moves the dispensing head to traverse the light path (see Abstract; figures 5-12; and paragraphs 0014, 0025-0031, and 0124), since states that the detecting device has one or a plurality of might receiving device, fixed or movably provide outside of the liquid passage, a movable

region thereof or a part of the region, so as to have an optical axis directed theretowards (see paragraph 0025).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claims 1 and 5 of Toi et al with the teachings of Tajima et al to provide a dispenser operation verification apparatus and a verification method that performs verification of the dispenser operation with high reliability regarding whole processes consisting of a series of operations, by performing the operations while verifying the operations of the dispenser (see Tajima et al paragraph 0012).

Regarding claim 9, Toi et al claim an automatic liquid handling system wherein the moving mechanism moves the dispensing head in a three dimensional space defined by X-axis, Y-axis, and Z-axis, and swivels the dispensing head in a plane defined by the X-axis and the Y-axis.

Toi et al does not include in the claim an automatic liquid handling system wherein the light emitting unit and the light receiving unit are disposed in the plane defined by the X-axis and the Y-axis in such a positional relationship that the light path forms 45 degrees with respect to the X-axis and the Y-axis, and the moving mechanism moves the dispensing head in a direction of the X-axis or the Y-axis to traverse the light path.

Tajima et al teaches an automatic liquid handling system wherein the sensor comprises a light emitting unit and a light receiving unit disposed apart a predetermined distance from the light emitting unit, a light path being formed between the light emitting unit and the light receiving unit, wherein the moving mechanism moves the dispensing

head to traverse the light path (see Abstract; figures 5-12; and paragraphs 0014, 0025-0031, and 0134-0135 and) that the detecting device has one or a plurality of light receiving device, fixed or movably provide outside of the liquid passage, a movable region thereof or a part of the region, so as to have an optical axis directed theretowards (see paragraph 0025 and figure 5), such that it would have been an obvious variation to construct the sensor of the detecting unit wherein the light emitting unit and the light receiving unit are disposed in the plane defined by the X-axis and the Y-axis in such a positional relationship that the light path forms 45 degrees with respect to the X-axis and the Y-axis, and the moving mechanism moves the dispensing head in a direction of the X-axis or the Y-axis to traverse the light path.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the claims of Toi et al with the teachings of Tajima et al to provide a dispenser operation verification apparatus and a verification method that performs verification of the dispenser operation with high reliability regarding whole processes consisting of a series of operations, by performing the operations while verifying the operations of the dispenser (see Tajima et al paragraph 0012).

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paschetto et al (US 2002/0108857 A1) in view of Tajima et al (US 2003/0075556 A1).

Regarding claim 1, Paschetto et al discloses an automatic liquid handling system comprising: a dispensing tip container (203) having a plurality of holding portions (204A) for holding dispensing tips (204C); a dispensing head (20A) having attachment portions (204) to which at least one dispensing tip is attached, wherein when one or more dispensing tips are attached to the attachment portions, the dispensing head is capable

of performing sucking and expelling operations (204B) for sucking liquid in or expelling the liquid out from the one or more dispensing tips; a moving mechanism that moves the dispensing head (18, 19); a sensor that senses if one or more dispensing tips are attached to the attachment portions of the dispensing head when the head moves relative to the sensor, and generates an output indicative of a status of the dispensing tips attached to the attachment portions of the dispensing head (the tips are removed from the tip holders in any suitable way on the liquid handling tool that pushes the off the tip holders) (see paragraph 0040); and a control device that controls the sucking and expelling operations performed by the dispensing head (see paragraphs 0037-0038)) and controls the moving mechanism to control movements of the dispensing head (18, 19) (see paragraph 0035-0042 and figures 2-5).

Paschetto et al does not disclose that the sensor has a sensing region that extends in a direction slanted with respect to a direction in which the dispensing head moves.

Tajima et al discloses an automatic liquid handling system wherein the sensor has a sensing region that extends in a direction slanted with respect to a direction in which the dispensing head moves (see paragraph 0025 and figure 5).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Paschetto et al with the teachings of Tajima et al to provide a dispenser operation verification apparatus and a verification method that performs verification of the dispenser operation with high reliability regarding whole processes consisting of a series of operations, by performing the

operations while verifying the operations of the dispenser (see Tajima et al paragraph 0012).

Claim 2 depends on claim 1 such that the reasoning used to reject claim 1 will be used to reject the dependent portions of the claim.

Regarding claim 2, Paschetto et al teaches an automatic liquid handling system wherein the sensor optically senses one or more dispensing tips (see paragraph 0040).

Claim 3 depends on claim 2 such that the reasoning used to reject claim 2 will be used to reject the dependent portions of the claim.

Regarding claim 3, Paschetto et al discloses the use of a photosensor which sense one or more dispensing tips (see paragraph 0040).

Paschetto et al does not teach an automatic liquid handling system wherein the sensor comprises a light emitting unit and a light receiving unit disposed apart a predetermined distance from the light emitting unit, a light path being formed between the light emitting unit and the light receiving unit, wherein the moving mechanism moves the dispensing head to traverse the light path.

Tajima et al teaches an automatic liquid handling system wherein the sensor comprises a light emitting unit and a light receiving unit disposed apart a predetermined distance from the light emitting unit, a light path being formed between the light emitting unit and the light receiving unit, wherein the moving mechanism moves the dispensing head to traverse the light path (see Abstract; figures 5-12; and paragraphs 0014, 0025-0031, and 0124), since states that the detecting device has one or a plurality of light receiving device, fixed or movably provide outside of the liquid passage, a movable

region thereof or a part of the region, so as to have an optical axis directed theretowards (see paragraph 0025).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Paschetto et al with the teachings of Tajima et al to provide a dispenser operation verification apparatus and a verification method that performs verification of the dispenser operation with high reliability regarding whole processes consisting of a series of operations, by performing the operations while verifying the operations of the dispenser (see Tajima et al paragraph 0012).

Claim 4 depends on claim 1 such that the reasoning used to reject claim 1 will be used to reject the dependent portions of the claim.

Regarding claim 4, Paschetto et al teaches the use of a controller (see figure 7).

Paschetto et al does not teach an automatic liquid handling system further comprising a memory that stores information about a number of dispensing tips to be attached to the attachment portions of the dispensing head with position data indicating the holding portions to which the dispensing tips are to be attached, wherein the control device compares the output of the sensor with the information stored in the memory.

Tajima et al discloses an automatic liquid handling system further comprising a memory that stores information related to the dispenser; which the examiner interprets to include information about a number of dispensing tips to be attached to the attachment portions of the dispensing head with position data indicating the holding portions to which the dispensing tips are to be attached (see figure 6 and paragraph

0119) and wherein the control device compares the output of the sensor with the information stored in the memory (see paragraphs 0119 and 0133), since the results of the pressure control device (16) are judged based on the optical conditions detected by the detecting device (20). One may also interpret the judgment device as a control since it acts to control the pressure control device, the transport device, the magnetic device and the detaching device (See paragraph 0133).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Paschetto et al with the teachings of Tajima et al to provide a dispenser operation verification apparatus and a verification method that performs verification of the dispenser operation with high reliability regarding whole processes consisting of a series of operations, by performing the operations while verifying the operations of the dispenser (see Tajima et al paragraph 0012).

Claims 5-6 depend on claim 4 such that the reasoning used to reject claim 4 will be used to reject the dependent portions of the claim.

Regarding claim 5, Paschetto et al does not teach an automatic liquid handling system further comprising adjusting means for adjusting the number of dispensing tips attached to the attachment portions of the dispensing head and the attachment positions of the dispensing tips as indicated by the information stored in the memory when the control device generates a comparison result indicating that the output of the sensor and the information stored in the memory are not in coincidence with each other.

Tajima et al does not disclose an automatic liquid handling system further comprising adjusting means for adjusting the number of dispensing tips attached to the attachment portions of the dispensing head and the attachment positions of the dispensing tips as indicated by the information stored in the memory when the control device generates a comparison result indicating that the output of the sensor and the information stored in the memory are not in coincidence with each other.

However, Tajima et al discloses that the detaching unit (24) comprises a sensor (47) to verify the detachment of the pipette tips and that the detaching unit (24) is judged based on the optical condition detected by the detecting device (2) (see paragraphs 0133-0137). If the invention can detect if a tip is detached, it is an obvious variation to detect if the tip is attached.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Paschetto et al with the teachings of Tajima et al to provide a dispenser operation verification apparatus and a verification method that performs verification of the dispenser operation with high reliability regarding whole processes consisting of a series of operations, by performing the operations while verifying the operations of the dispenser (see Tajima et al paragraph 0012).

Regarding claim 6, Paschetto et al does not teach an automatic liquid handling system wherein when the control device generates a comparison result indicating that the output of the sensor and the information stored in the memory are not in

coincidence with each other, the control device controls the moving mechanism to stop movement of the dispensing head.

Tajima et al teaches an automatic liquid handling system that in the case where the tip (18) is not attached or attached the optical information obtained from the detecting device is compared to the operation instruction and instructs the display selection (14) to display affirmative or negative and that in a situation where there is a shortage of liquid drawn into the pipette tip a warning is displayed in the display selection and others means of warning may be used like an alarm sound, voice or the like and also to send a signal to the operation instruction device (15) (see paragraphs 0137, 0153-0154 and 0158).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Tajima et al such that a signal is sent to the operation instruction device to stop the movement of the dispensing device when the judgment device determines that the tip is not attached to the pipette because the liquid handling system would not operate correctly in that situation.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Paschetto et al with the teachings of Tajima et al to provide a dispenser operation verification apparatus and a verification method that performs verification of the dispenser operation with high reliability regarding whole processes consisting of a series of operations, by performing the operations while verifying the operations of the dispenser (see Tajima et al paragraph 0012).

Claims 7-8 depend on claim 6 such that the reasoning used to reject claim 6 will be used to reject the dependent portions of the claim.

Regarding claim 7, Paschetto et al does not teach an automatic liquid handling system wherein the control device generates the comparison result each time comparison is performed with respect to one attachment portion of the dispensing head.

Tajima et al does not explicitly teach an automatic liquid handling system wherein the control device generates the comparison result each time comparison is performed with respect to one attachment portion of the dispensing head.

Tajima disclose a judgment device (19) that generates comparison results to the optical pattern of the detecting device (20) and the operation instruction or inputted information such as device information related to the dispenser, which may include one attachment portion of the dispensing head.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Paschetto et al with the teachings of Tajima et al to provide a dispenser operation verification apparatus and a verification method that performs verification of the dispenser operation with high reliability regarding whole processes consisting of a series of operations, by performing the operations while verifying the operations of the dispenser (see Tajima et al paragraph 0012).

Regarding claim 8, Paschetto et al does not teach an automatic liquid handling system wherein the control device generates the comparison result after comparison is performed with respect to all the attachment portions of the dispensing head.

Tajima et al does not explicitly teach an automatic liquid handling system wherein the control device generates the comparison result each time comparison is performed with respect to all the attachment portions of the dispensing head.

Tajima disclose a judgment device (19) that generates comparison results to the optical pattern of the detecting device (20) and the operation instruction or inputted information such as device information related to the dispenser, which may include all the attachment portions of the dispensing head.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Paschetto et al with the teachings of Tajima et al to provide a dispenser operation verification apparatus and a verification method that performs verification of the dispenser operation with high reliability regarding whole processes consisting of a series of operations, by performing the operations while verifying the operations of the dispenser (see Tajima et al paragraph 0012).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paschetto et al (US 2002/01088857 A1) and Tajima et al (US 2003/0075556 A1) as applied to claim 3 above, and further in view of Anderson (US 2002/0131894 A1).

Claim 9 depends on claim 3 such that the reasoning used to reject claim 3 will be used to reject the dependent portions of the claim.

Regarding claim 9, Paschetto et al teaches movement of the dispensing head in the x and y directions (see figure 2).

Paschetto et al does not teach an automatic liquid handling system wherein the moving mechanism moves the dispensing head in a three dimensional space defined by X-axis, Y-axis, and Z-axis, and swivels the dispensing head in a plane defined by the X-axis and the Y-axis, wherein the light emitting unit and the light receiving unit are disposed in the plane defined by the X-axis and the Y-axis in such a positional relationship that the light path forms 45 degrees with respect to the X-axis and the Y-axis, and the moving mechanism moves the dispensing head in a direction of the X-axis or the Y-axis to traverse the light path.

Anderson teaches a pipette holder (35), with motorized pipette (33) and tip (31) which can rotate in the x, y, and z directions (see paragraphs 0107-0111 and claim 42).

Anderson does not teach multiple pipettes in the pipette holder.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teaching of Paschetto et al with the teachings of Anderson for more freedom of movement while dispensing liquid.

Tajima et al teaches an automatic liquid handling system wherein the sensor comprises a light emitting unit and a light receiving unit disposed apart a predetermined distance from the light emitting unit, a light path being formed between the light emitting unit and the light receiving unit, wherein the moving mechanism moves the dispensing head to traverse the light path (see Abstract; figures 5-12; and paragraphs 0014, 0025-0031, and 0134-0135 and) that the detecting device has one or a plurality of light receiving device, fixed or movably provide outside of the liquid passage, a movable region thereof or a part of the region, so as to have an optical axis directed

theretowards (see paragraph 0025 and figure 5), such that it would have been an obvious variation to construct the sensor of the detecting unit wherein the light emitting unit and the light receiving unit are disposed in the plane defined by the X-axis and the Y-axis in such a positional relationship that the light path forms 45 degrees with respect to the X-axis and the Y-axis, and the moving mechanism moves the dispensing head in a direction of the X-axis or the Y-axis to traverse the light path.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined teachings of Paschetto et al and Anderson with the teachings of Tajima et al to provide a dispenser operation verification apparatus and a verification method that performs verification of the dispenser operation with high reliability regarding whole processes consisting of a series of operations, by performing the operations while verifying the operations of the dispenser (see Tajima et al paragraph 0012).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATASHA YOUNG whose telephone number is (571)270-3163. The examiner can normally be reached on Mon-Thurs 7:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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NY


WALTER D. GRIFFIN
SUPERVISORY PATENT EXAMINER